

Sheet-os

1 . What are necessary conditions for dead lock?

1. Mutual exclusion (where at least one resource is non-sharable)
2. Hold and wait (where a process holds one resource and waits for other resource)
3. No preemption (where the resources can't be preempted)
4. Circular wait (where $p[i]$ is waiting for $p[j]$ to release a resource. $i = 1, 2, \dots, n$)

2 . What is cache memory?

Cache memory is random access memory (RAM) that a computer microprocessor can access more quickly than it can access regular RAM. As the microprocessor processes data, it looks first in the cache memory and if it finds the data there (from a previous reading of data), it does not have to do the more time-consuming reading of data from larger memory.

3 . What is logical and physical addresses space?

Logical address space is generated from CPU; it bound to a separate physical address space is central to proper memory management. Physical address space is seen by the memory unit. Logical address space is virtual address space. Both these address space will be same at compile time but differ at execution time.

4 . Differentiate between Compiler and Interpreter?

An interpreter reads one instruction at a time and carries out the actions implied by that instruction. It does not perform any translation. But a compiler translates the entire instructions

5 . What is Throughput, waiting time and Response time?

Throughput – number of processes that complete their execution per time unit

Waiting time – amount of time a process has been waiting in the ready queue

Response time – amount of time it takes from when a request was submitted until the first response is produced, not output (for time-sharing environment)

6 . What is Memory-Management Unit (MMU)?

Hardware device that maps virtual to physical address. In MMU scheme, the value in the relocation register is added to every address generated by a user process at the time it is sent to memory.

->The user program deals with logical addresses; it never sees the real physical addresses

7 . What is a Real-Time System?

A real time process is a process that must respond to the events within a certain time period. A real time operating system is an operating system that can run real time processes successfully

8 . What is a trap ? A trap is a software interrupt, usually the result of an error condition.

9 . When is a system in safe state?

The set of dispatchable processes is in a safe state if there exists at least one temporal order in which all processes can be run to completion without resulting in a deadlock.

10. Explain the concept of the Distributed systems?

Distributed systems work in a network. They can share the network resources, communicate with each other.